

## EXHAUST OPACITY MEASURING DEVICE

### Abstract

A remote emissions sensing system and method for sensing exhaust emissions from motor vehicles is provided where the system determines the opacity of an exhaust plume. The system comprises a radiation source that emits radiation which is passed through the exhaust plume of a motor vehicle to one or more detectors arranged to receive the radiation. A processor calculates the difference between the intensity of source radiation and the intensity of the radiation received by the detectors in first and second detection bands. The intensity difference in the second detection band measures exhaust opacity. If the exhaust opacity exceeds a predetermined level, the emissions data from other detection bands may be flagged as suspect or discarded. Alternatively, for a diesel powered vehicle, the exhaust opacity determination can be validated by a measurement of carbon monoxide in the exhaust plume.

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